

REMARKS

File History

In the outstanding Office action of 1/06/2009, the following allowances, rejections, objections, requirements and other actions appear to have been made:

- **Claim 6-7, 22-24, 27** were finally restricted out (withdrawn).
- **Claims 1, 2, 5, 8-9, 12-16, 19-21, 25-26 and 28-31** were rejected under 35 USC §103(a) as being obvious over **Mori** (US 6,326,981).
- **Claims 3-4, 10-11, and 17-18** were rejected under 35 USC §103(a) as being obvious over **Mori** as combined with **Martin** (US 6,714,206).
- **Claims 13-14, 20-21, 25-26 and 31** were rejected under 35 USC §112, paragraph 1 for lack of enablement.

The Specification was objected to for inadequate disclosure based on an interview that apparently took place 11/07/2007.

Summary of Current Response

Claims 1-2, 4-5, 8-13, 15, 20, 25-26, 29-31 are amended.

Claims 6-7, 22-24, 27 are canceled without prejudice.

Applicants' Overview of Outstanding Office Action

Applicant sees the outstanding Office action of 1/06/2009 as having the following noteworthy features (1)-(3):

- (1) The Examiner broadly interprets the previously pending claims to cover frame-by-frame inversion. (See Official Notice taken at OA page 5, second to last paragraph.)
- (2) The Examiner interprets a telephone conversation apparently had with Mr. Kaler (no longer at this law office) as constituting an admission that the specification does not

adequately describe that which the inventor regards as his invention (See OA page 2, paragraph 3 regarding definition of "image degradation".)

(3) The outstanding grounds of rejection rely on numerous takings of Official Notice and recasting of what Mori teaches to one of ordinary skill (See again OA page 5, including PTO conversion of the 3x2 "pixel" in Mori Fig. 15 into a 4x2 rectangle that cannot reasonably constitute a repeating group).

Support for Amended Claim 1

It is respectfully submitted that much of the outstanding grounds of rejection are mooted by the current amendments to the claims.

Claim 1 is amended to clarify that the driver circuit uses a "dot inversion polarity scheme". Support for this may be found for example at application paragraphs [015]-[016] which respectively discuss how "FIG. 1A depicts one particular dot inversion scheme--i.e. 1x1 dot inversion--that is indicated by a "+" and a "-" polarity given in the center of each subpixel." and how "FIG. 1B depicts another conventional RGB stripe panel having another dot inversion scheme--i.e. 1x2 dot inversion."

It is respectfully submitted that the ordinary artisan would appreciate such dot inversion schemes as being distinct from whole frame by frame inversions. Since all outstanding grounds of rejection are predicated on the Official Notice taken at OA page 5, second to last paragraph regarding frame by frame inversion, the current well-supported amendment to Claim 1 renders moot the outstanding art-based rejections.

Claim 1 is further amended to clarify that the driver circuit "selectively violates the dot inversion polarity scheme". Support for this may be found for example in application Fig. 3 where ovals are used to identify the locations where the periodic dot inversion scheme is violated.

Moreover, support for this may be found for example in application paragraph [022] which states:

[0022] One such technique is to choose which subpixels are to be degraded, if degradation may not be avoided. In FIG. 3, the phasing is designed so as to localize the **same-polarity occurrence on the circled blue subpixels 302**. In this manner, the polarity of same color subpixels along a row is inverted every two driver chips, which will minimize or eliminate the horizontal image degradation. The periodic circled blue subpixels 302 will be slightly darker (i.e. for normally-black LCD) or lighter (i.e. for normally-white LCD) than other blue subpixels in the array, but since the eye is not as sensitive to blue luminance changes, the difference should be substantially less visible.

[Emphasis added.]

A person skilled in the art would recognize from application Fig. 3 and its associated text that one of the numerous techniques taught by the application is that of violating the periodic dot inversion scheme where the violation occurs as between a Blue subpixel and another subpixel (e.g., a half-width Green subpixel).

Claim 1 is further amended to clarify that the "the color of said first colored subpixels is one to which the human visual system has lower luminance sensitivity than to other colors". Support for this may be found for example in the above quoted, application paragraph [022].

Claim 1 is further amended to clarify that "potential image degradation introduced by said violation of the periodic dot inversion polarity scheme is localized". The Examiner appears to have read the specification as teaching that an undefined degradation will always occur. However, the specification does not say that and the ordinary artisan would not read it as saying that. More specifically, the ordinary artisan would read specification paragraph [0015] as teaching that "In the field of AMLCD panels, it is known to drive the panel with a dot inversion scheme to reduce crosstalk or flicker" where the referenced dot inversion scheme is one that is consistently applied across the whole row and applies on a subpixel by subpixel basis. When the repeating group has an odd number of subpixels per row, then switch of polarity for a same color, say for successive RED subpixels, inherently occurs by consistently adhering to the dot inversion scheme on a subpixel by subpixel basis.

The ordinary artisan would read specification paragraph [0016] as teaching that "This changing of polarity decreases noticeable visual effects that occur with particular images rendered upon an AMLCD panel." [Emphasis added.] From this the ordinary artisan

understands that the undesirable visual artifacts do not always occur, but rather they have a potential to occur "with particular images". By totally avoiding or violating the dot inversion scheme, one increases the danger that the undesirable visual artifacts will occur "with particular images".

More particularly, specification paragraph [0016] talks about two different aspects of polarity reversal. There is subpixel by subpixel reversal ("a few observations are noted: (1) in 1x1 dot inversion, every two physically adjacent subpixels (in both the horizontal and vertical direction) are of different polarity" [emphasis added.]). Also there is per color reversal ("a few observations are noted: ... (3) across any given row, each successive colored subpixel has an opposite polarity to its neighbor. Thus, for example, two successive red subpixels along a row will be either (+,-) or (-,+)." [emphasis added.]).

In view of the desire to have polarity reversal for a same color (e.g., successive red subpixels) a person skilled in the art would be led away from the idea of having a repeating group with an even number of subpixels.

Support for Amended Claim 5

Specification paragraph [0023] provides additional detail about the correction signal, namely: "[0023] Yet another technique is to add a correction signal to any effected subpixels. ... In particular to **FIG. 3**, if it is desired to correct the small error on the circled pixels, then a correction term can be added to the data for the circled blue subpixels." [Emphasis added.]

Traverse of PTO interpretation of Mori Fig. 15

The art-based rejections interpret Mori Fig. 15 as showing a repeating group having an even number of subpixels. Applicant respectfully submits that a person skilled in the art cannot reasonably view Mori Fig. 15 as showing an even number of subpixels in the row of the repeating group. The "One Pixel" of Mori Fig. 15 is a repeating group and it has an odd number of subpixels.

Traverse of §112 Rejections and Objection to the Specification

The Examiner's difficulty with the previously presented claim language is appreciated. (See OA page 3.) However, with respect to the written description and what it conveys to the skilled artisan, it is respectfully submitted that application Fig. 3 and the text associated therewith amply convey to the skilled artisan that the dot inversion scheme is to be periodically violated at the locations where the blue subpixels occur and that by virtue of the human eye being less sensitive to loss of luminance in the blue color channel, the effects of periodic violation of the dot inversion scheme are partially hidden in a novel and nonobvious way. Note also in Fig. 3 and with respect to Claims 25-26 that the inversion violations of one embodiment are placed at the borders of the sections driven by the respective driver chips.

It is believed that the claims as now presented can be better understood in light of the circled points of scheme violation shown within Fig. 3. Accordingly, it is respectfully requested that the Examiner withdraw the interpretations made at OA page 3 of the outstanding Office action and that the Examiner reconsider the claims in light of the information provided herein.

CONCLUSION

It is believed that all outstanding grounds of rejection have been overcome or traversed in light of the foregoing. Applicant respectfully requests entry of the amendments and reexamination with favorable outcome. Should any other action be contemplated by the Examiner, it is respectfully requested that the Examiner contact the undersigned at (408) 392-9250 to discuss the application.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 08-1394 for any matter in connection with this request, including any fee for extension of time and/or other fee which may be required.

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